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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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## RAIL RATES ON ORE FROM MINE TO SHIPPING POINT.

It is learned that J. J. Hill, since he has become the owner of a piece of railroad that is devoted largely to the carrying of iron ore, will not accept the business if anything like the rate asked for by the petioners, John G. Brown and Dr. Conn, is ordered by the State Railroad and Warehouse Commission, a Duluth exchange says. The old Duluth, Superior & Western Road, now a part of the Eastern Minnesota system, is not included in the complaint of the petitioners, for the reason that the road delivers its iron ore on the Wisconsin side of the bay and therefore is not subject to the State Railroad and Warehouse Commismission in the complete sense that the Iron Range and and Mesaba roads are. This road would naturally have to make the same rate as the Mesaba roads, however, if it is to continue in the ore carrying business, for there are competing lines for business at Hibbing and vicinity. The Duluth Superior & Western, in connection with the Duluth, Mississippi River & Northern last year carried 531,825 tons of ore to the Allouez dock, and will deliver about 800,000 tons this year. The ore comes largely from the Mahoning property. It is admitted that the hauling of the ore at 80 cents a ton is profitable, but it is also claimed that the margin of profit is not so great that it can stand much trimming down.

"Take 25 cents off the ore rate and the Eastern Minnesota Road will refuse the business," said a gentleman that is quite well posted on the railroad situation. "Take 10 cents off the rate and it becomes a matter of indifference to the company whether there is an increase or a decrease in the business. That is about the situation as I understand it at present."

## THE PRESIDENT'S NEW FLAG.

The new official flag of the President of the United States is printed for the first time correctly on the cover of the July Ladies' Home Journal. The flag was recently adopted as the President's emblem, and henceforth will be employed to proclaim his official presence. When he is at the White House the flag will be displayed there, and wherever he may go as President of the United States it will be in evidence. Its publication in accurate color detail will be a matter of much interest, inasmuch as it will acquaint the public with the President's emblem.

## A POINT OF COMMERCIAL LAW.

The British Court of Appeal, the highest court in the kingdom except the House of Lords, has ordered a decision on a point of commercial law that will be authority in this country. The question was one where a firm of bankers had mailed a customer a draft for $4,000. It was stolen from the mails by a swindler, who forged the indorsement, deposited it in a bank to his own credit, drew $2,000 on account, and decamped. The question was whether the loss should fall on the bank as remitter, or the customer as receiver. The lower court and the higher one both held that the loss was that of the person to whom the check was sent, but the Court of Appeal, with the lord chief justice presiding, reversed the previous discisions, and held that as the check failed to reach the person for whom it was intended, there was no payment, and therefore the loss fell on the bank.

## MARITIME LAW.

"CONSTRUCTIVE TOTAL LOSS" DEFINED.—The Lord Chancellor and other law lords gave judgment in an appeal against a decision of the Court of Session in Scotland. The appelants (the Sailing Ship Blairmore Co., limited) sued the respondent, Mr. John Maeredic, as one of the underwriters of the Blairmore, for his share of the liability for the insured value of the vessel. The ship was insured under five time valued policies amounting in all to £15,000. On April 9, 1896, whilst in the bay of San Francisco, she was struck by a sudden and violent squall, and was capsized and sunk. The appelants, the owners, being of opinion that the vessel could not be raised and repaired except at an expense greatly in excess of her value, after being repaired, gave notice of abandoment to the underwriters as a constructive total loss. The underwriters refused to accept this notice, and proceeded to raise the ship. This they succeeded in accomplishing, at a cost of about £8,000. It was said that her value repaired would be about £9,600. The appellants claimed the full valued sum in the policies, as for a total loss, but payment was refused, and they brought the action. It was understood that this was a test action and would decide the liability of the other underwriters. The Lord Ordinary held that the statements of the owners were irrelevant as founding a claim under the policy for a total loss, and dismissed the action, and the Second Division affirmed his decision. Hence the appeal. The main question was whether, in the circumstances, there had been a constructive loss. The law lords now held that the ship was totally lost when she went to the bottom, though modern mechanical science might enable her to be brought up again. Judgment was, therefore, entered for the owners of the vessel.

## LAKE AND RAIL—ALL RAIL.

The Minneapolis roads recently published reduced rates on flour and grain products from Minneapolis to New York and Eastern points, both via the lake-and-rail routes and all-rail routes, the rates announced by the former being 17½ cents per 100 pounds, and by the latter 20½ cents per 100 lbs.

These rates were regarded by the lake and trunk lines as altogether too low and they accordingly declined to authorize the acceptance of same for their several lines. At a conference held on Friday last, the Minneapolis roads were urged and agreed to annul tariffs publishing these rates. This has the effect of restoring the rate of 20 cents on flour from Minneapolis to New York via the lake-and-rail routes and 23 cents via the all-rail routes.

A further agreement was reached by which, taking effect August 22d, the rates on flour and grain products will be advanced to the basis of 22½ cents per 100 pounds via lake and-rail routes and 25½ cents per 100 pounds via all-rail-routes Minneapolis to New York. Sanction of the action of the representatives in conference has been secured from all the lines.

## SOME ASTRONOMICAL NOTES FOR AUGUST.

(Communicated.)

Leo with his brilliant sickle that has so long been an object of beauty in our evening sky, has disappeared—lost is the region of continuous day. A few months later he may be found in the east in the early morning.

Virgo with the beautiful Spica will soon disappear in like manner.

While some constellations are continually disappearing in the west, others are as constantly coming into view in the east. Prominent among the latter class may be mentioned, Pegasus, the Winged Horse with his great square, which will be a conspicuous figure in the eastern evening sky during August.

Following Pegasus is Andromeda, just south of Cassiopeia, remarkable for its great nebula, the only nebula visible to ordinary eyes. Later in the evening toward the south-west, may be found Fomalhaut of the Southern Fish, the only first magnitude star coming into view during the month. The Galaxy, or Milky Way, will be at its best during August and September. At present it extends from Perseus in the north-east, towards the south-west, including Cygnus, Aquila and Sagittarius and Scorpio in part. It is composed of numberless small stars apparently so crowded together that they cannot be separated by ordinary vision. It includes some star clusters of great beauty when seen through a telescope. The double cluster in Perseus is perhaps the most beautiful.

Mercury reaches his greatest eastern elongation from the sun August 9th, and may be seen for a few evenings either side of that date if the sky is perfectly clear. Venus is still nightly increasing in brilliancy and beauty, and is also increasing her angular distance from the sun, and hence coming in a more favorable position for telescopic observation. August 19th, she and Jupiter will be in conjunction, an event well worthy of notice. Jupiter will continue to be visible in the early evening during the month, but will be too near the horizon for satisfactory observation through the telescope. Saturn now passes the meridian early in the evening, and will be favorably situated for observation during August. Mars is still visible only in the morning.

The annual display of August meteors may be expected from the 9th to the 15th. The display is not often very marked, but more meteors are usually seen about that time in the month than on ordinary occasions. They seem to radiate from a point in Perseus, and hence are known as Perseido.

We shall be favored with an unusual number of moonlight evenings in August, as there will be two full moons during the month.

A double group of small spots, a small double spot, still visible, and a small single spot just coming on, constitutes the sun-spot record as observed for July. August 2nd the sun will come to the meridian six minutes slow; the last day of the month he will only be five seconds behind mean local time.

D. SATTERTHWAITE.

Toledo, Ohio.

# NEWS AROUND THE LAKES.

## CHICAGO.

*Special Correspondence to The Marine Record.*

The steamer Edward Buckley, Capt. C. Gnewuch, has already made thirty-one round trips this season, carrying twenty-one loads of timber and lumber and ten loads of salt.

The schooner Capt. Geo. W. Naghtin, Capt. John Kemming, lumber laden, when entering St. Joseph harbor on Saturday, ran on the wreckage of the steamer City of Duluth and received some damage.

At Miller Brothers' shipyard the steamer H. Luella Worthington was in dock for a new wheel, the schooner William Jones for bottom calking, the steamer A. Weston for a new key and fastening wheel.

The Cleveland & Buffalo Transit Co. are spreading out for business. A large number of their beautiful hangers are displayed in this city giving a splendid head-on picture of their fine steel, side-wheel steamer, City of Buffalo.

J. J. Rardon & Co. chartered the steamers John G. Eddy, City of London and Phœnix for corn to Erie at 1c., steamer Rosedale for corn to Prescott at 1⅞c. free of tolls, the schooner Maria Martin for oats to Sarnia at ⅞ of a cent.

Seventeen vessels cleared with merchandise and grain during Saturday and Sunday. Grain clearances for Monday, according to the list of charters, exceeded a half million bushels. This movement of grain is considerably above the average at this time of the year.

Within the past week more schooners of the lumber fleet have been sent out for cargoes than at any previous time this season. There is, accordingly, a slight improvement in the lumber market, but freight rates are just enough to cover expenses, so that there is not so much cause for congratulations anyway.

Chicago vesselmen telegraphed to Washington for a ruling on the provisions of the stamp act, relative to clearances to Canadian ports. The reply is: Internal revenue office holds bill of lading on cargo of grain exported by vessel from the United States to Canada exempt from stamp taxes. If exported in cars, a 10-cent stamp will be placed on original bill.

On Monday afternoon the schooner L. A. Simpson, in tow of the tug Geo. W. Gardner, going up the north branch of Chicago river, and the barge Wm. Jones, in tow of the tug Welcome, coming down, collided in the draw of Erie street bridge. The Simpson had her jib-boom, bowsprit, one cat-head and her head-gear carried away. The Jones received some slight injuries.

The Dunham Towing & Wrecking Co. have put a new boiler into their tug J. C. Evans, formerly the Jas. McGordon. The dimensions of the boiler are 12 feet long, 7½ feet diameter, to be allowed 150 lbs. steam pressure. The boiler is of the fire-box type and was built by the company at their own machine shop. The tug has been remodeled and rebuilt, lengthened three feet and raised one foot. She will, when completed, be one of the most powerful tugs on the lakes.

Several schooners have been fined for not displaying anchor lights. The master of one of the schooners which was assessed $5 explained to the collector that the reason that he did not display an anchor light was that times were so hard that he could not afford it. He lived aboard the boat and the only cost of the light was for oil. He had carried but one cargo since the opening of navigation. The beginning of the last of the schooner trade has surely set in when hard times like this is preached, and the worst of it is it is true, too.

A collision occurred between the passenger steamers State of Ohio and City of Louisville Friday afternoon. The steamers were nearing the piers at the entrance to St. Joseph when the City of Louisville struck one of the paddle boxes of the State of Ohio, breaking it and injuring the paddle wheel and partly disabling her. The City of Louisville was uninjured. Capt. Boswell, of the Louisville, claims that he was keeping a straight course and the Ohio crowded the Louisville and was attempting to cross her bow when the accident occurred.

Boatswain Henry Hudson, U. S. N., left here on Tuesday over the Pennsylvania road for New York with thirty-eight naval recruits. The men, who are first-class seamen, firemen, machinists and shipwrights, are destined for the New York navy yard, where they will go aboard the receiving ship Vermont, there to await appointments to sea-going vessels; and thus a few more decent lake men are drawn away from their former employment. It will soon be in order to scour the coast ports for some kind of men to man lake vessels if the navy is to take many more away.

At J. B. Bates & Co.'s shipyard the steamer City of Traverse received about $900 worth of repairs to damage done by collision with the tow barge Hutchinson, consort of the steamer Richards, near Marquette recently. The steamer Peerless received about $500 part of repairs to damage done by collision with one of Capt. James Davidson's tow barges in the "Soo" river. The schooner Cape Horn received nearly all new plank shear, 25 new stanchions and some new rail; the schooner Bertha Barnes received some repairs and a new main gaff; the steamer George F. Williams had her decks repaired and calked; the steamer Iron Chief had her hatch coamings, decks and life-boats calked; the steamer Jay Gould received some repairs; the schooner-yacht Hawthorne received new gaffs.

The statements of the crew of the Minnesota liner Mesaba, relative to the collision between the Edward Smith and barge Aurania, at the St. Clair Flats, were taken at South Chicago on Monday. It is said that an attempt will be made to hold the Mesaba responsible for the wreck on the ground that she was racing with the Smith for the canal, and her suction threw the latter boat in front of the Aurania. This, of course, is mere talk until the matter comes before the court and the protests of each vessel is filed and duly sworn to. The evidence adduced then may put an entirely different complexion on the casualty.

The stocks of grain in Chicago elevators last Saturday evening were 793,000 bushels of wheat, 7,155,000 bushels of corn, 726,000 bushels of oats, 104,000 bushels of rye and 10,000 bushels of barley. Total, 8,788,000 bushels of all kinds of grain, against 12,039,000 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 9,093,000 bushels of wheat, 17,575,000 bushels of corn, 3,440,000 bushels of oats, 305,000 bushels of rye and 343,000 bushels of barley. These figures are smaller than the corresponding ones of a week ago by 289,000 bushels of wheat, 1,096,000 bushels of corn, 830,000 bushels of oats, 179,000 bushels of rye and 7,000 bushels of barley. The visible supply of wheat for the corresponding week of a year ago decreased 1,782,000 bushels.

## DETROIT.

*Special Correspondence to The Marine Record.*

The steamer Frank E. Kirby will run a fifty-cent excursion to Put-in-Bay, Sunday.

Capt. J. W. Westcott will again report vessel passages for the Lake Marine News Association.

The government will soon employ a tug for the purpose of directing and assisting vessels through the Middle Neebish channel. Bids for this work will be opened on August 8.

During the month of July, 248 vessels from Canadian ports and 454 vessels from domestic ports entered at the port of Detroit; 204 vessels cleared for foreign ports and 460 for domestic ports.

The passenger steamers sailing to Lake Superior are crowded and everyone seems to be on deck when they are passing Detroit, during daylight. The North West and North Land are especially well patronized, as they deserve to be.

Capt. George Shanks, of Windsor, who has been ill with consumption for many weeks, is reported to be at the point of death. Capt. Shanks has commanded steamers of the Detroit, Belle Isle and Windsor Co.'s fleet for a number of years.

The steamer Empire State, of the Detroit, Toledo, Cleveland and Ogdensburg line, will depart from the Stevenson line dock next Saturday morning on her second trip. It is announced that no passengers will be taken from Detroit on this trip as all the berths have been reserved for passengers from Cleveland for the Thousand Islands.

Capt. J. H. Rogers, inspector in the life-saving service is inspecting the life-saving station at Louisville, Ky. The Louisville station is almost the only one on a river. It has been established ten years, and is a floating station, made necessary by the many accidents to small boats that occur in the rapid current near the falls in the Ohio river.

The steamer Edward Smith, recently sunk by collision in Lake St. Clair, reached here this week in tow of the wrecker Saginaw and is to be dry docked for survey after her cargo is discharged. Bids are asked for repairs and it is not known whether the Detroit Dry Dock Co. will do the work or the vessel is to change ports for final repairs to be made.

Owing to the transfer of Arthur D. Ostrander, engineer of the lighthouse tender Warrington, to the navy, a vacancy occurs in Major Symon's list of subordinates. Engineer Ostrander goes to League Island navy yard at once, being assigned to duty in fitting out the Mahopac. A new engineer to fill the vacancy in the tenth light-house district will be appointed. Mr. Ostrander formerly lived in Detroit.

A new submarine boat has been undergoing experiments at the hands of a Detroit inventor and it is said that she is perfect in every detail. Those interested desire to keep the particulars of the craft a secret for the present and their wishes must be regarded in the matter until they want to let people know all about the invention. In the meantime great claims are being put forward regarding the latest submarine monster.

The increased draft which vessels can now load to, as compared with June, means that they can carry from 500 to 600 tons more cargo than they could forty days ago. In these days of low freights the additional amount is of great importance and in some cases may represent the actual profits of a trip. Owing to the fact that larger vessels have gone in commission this year than ever before on the lakes, cargo record breaking has continued in spite of the lower draft of water.

Owners of cargo steamers are not greatly dissatisfied over the action of the authorities in directing that no more passengers shall be carried on freight boats. Such pleasure parties had, in fact, become a good deal of a nuisance as well as a source of considerable expense. "Passengers who traveled on my boats cost me $500 last year," said one vesselman. "I had to carry them or lose business, but I am glad the practice is going to be stopped. A large number of passengers on a freight boat would be a serious aggravation of the danger in case of accident.

## BUFFALO.

*Special Correspondence to The Marine Record.*

James Kane, second mate of the steamer S. S. Curry, was drowned off his boat on Saturday as she lay at the dock. It is supposed that he walked off the gang plank.

As an indication of a better movement of coal, it is noted that no less than fourteen cargoes cleared from this port on Tuesday. The largest cargo was that of the J. J. McWilliams, 4,600 tons, and chartering is still fairly brisk.

The Oceanica and Clyde, of the Lehigh Valley line, cleared Monday night with coal. This is the first trip of the season of any of the Lehigh's wooden fleet, they having been held in port on account of the low freights offering, and as they are comparatively small wooden boats they were more expensive to keep up. It is now thought that work enough will be found for them to do until the early fall, always providing that they pay the cost of running them.

Although vessel owners have complained steadily of dull business, the records of the season to the end of July show that more coal and grain have been handled at this port than last year. Coal shipments to date are 795,000 tons against 669,000 last year. The month of July was the largest of the season, shipments being 276,000 tons compared with 239,000 during July last year. Shipments of both cement and salt are heavier than last season. During July the grain receipts fell off heavily but they are 17,000,000 bushels larger for the season to date than for the corresponding time last year.

Shipments of coal by lake for the month of July amounted to 276,139 tons. From opening of season to August 1st, the total export by lake amounted to 795,675 tons, as against 669,588 tons for same time in 1897. Grain receipts by lake, for the month of July were 14,008,849 bushels. In 1897 the receipts from opening of navigation to August 1st, was 71,539,206, as against 87,082,628 for same time this season. Canal clearances issued during July numbered 933. Grain shipments by canal amounted to 3,276,496 bushels. Lumber exported was 3,532,431 feet. The total of clearances since opening of navigation is 1,500.

Anent the carrying of passengers by cargo steamers having no passenger license, a vesselman tells a story of a gentleman who had, ought to have had, or thought he had, a big strong pull in marine circles, insisting one day on taking passage with his wife on one of the cargo boats, managed by their office. No objection was made, but it was suggested that as a matter of form, or rather to conform with the law, that the gentleman sign articles as a steward, and his wife as chambermaid. At the bare mention of such a thing the "gentleman" indignantly refused to be so rated, and bounced out of the office never to trouble the firm again with repeated requests for round-the-lake trips for his friends and acquaintances. A large number of cargo boats have a limited passenger license, and those who take their vacation in this manner should pay their proper share of traveling expenses.

## CLEVELAND.

*Special Correspondence to The Marine Record.*

By recent changes of masters, Capt. John D. Mullen is transferred to the propeller S. E. Sheldon, and Capt. D. Buie to the propeller J. S. Fay.

Rush R. Wallace, Commodore, U. S. N., chairman of the Light-House Board, is now on a tour of the lakes and is using the tender Haze this week.

Robert Craig, fireman on the steamer Zenith City, lying at Ashtabula, fell from aloft while engaged in painting the smokestack on Monday last, and his injuries are very serious, if not fatal.

The steel steamer Morse, launched on Sunday last at West Bay City, is the largest vessel afloat on the chain of lakes. Her hull dimensions are 476 feet over all, 50 feet beam and 29 feet depth of hold.

It is reported that the Carnegie Steel Co. has closed the purchase of a large block of iron ore this week, amounting to about thirty cargoes from Escanaba, and that charters have been placed at going rates for the entire lot.

In addition to the new work now under construction the Lorain yards of the Cleveland Ship Building Co. are kept very busy on dry dock and repair work. The steel steamer Pioneer is having repairs made to her bows after a collision at the "Soo."

When the old river bed is opened, and the work is now well advanced, there will be a current of clear water meandering through that stagnant and polluted streak of liquid. The city has done well in accomplishing this much needed improvement.

Complaints are heard this week about the river not being as clear as it should be for the purposes of safe navigation, and it is said that a regular patrol ought to be made at stated intervals throughout the season so that vessels could be given every facility to get to and from their docks.

The new steel steamer, Presque Isle, built by the Cleveland Ship Building Co., is given an insurance valuation of $235,000, and the steel tow barge, John Fritz, built at Wheeler's yard, for the Bessemer Steamship Co., is valued at $150,000. These vessels have a net tonnage of 3,571 and 4,447 respectively.

The local inspectors of steamboats for this district are enforcing the laws regarding the passenger service, and cargo boats that are found carrying passengers are to be proceeded against. The practice has become an abuse, as thousands of persons take their vacation on cargo boats, and at the expense of the vesselowner.

Work on the new west pier commenced this week. The new pier will be located about 150 feet west of the present pier. Its length will be about 1,500 feet. The contract calls for dredging to the depth of twenty feet. On the completion of this work Cleveland will have the best approach to the river of any port on the lakes with the exception, perhaps, of Duluth-Superior, where magnificent plans are being carried out. Concrete superstructures are now becoming the rule in place of temporary timber work.

Relative to the item that vessels meet with more consideration at the Canadian locks at the "Soo," several masters in the Lake Superior trade assure me that there is not the slightest difference or discrimination shown at either side. Capt. Bassett, of the Minnesota Line steamer Maritana says that courtesy is the invariable rule whichever side he uses and that vessels could ask for no better service or attention than is always freely and punctually awarded them by the canal attendants and the officers entrusted to carry out the rules of the canals.

Vesselmen are holding out this week for an advance of five cents in the coal rate to Portage, and they are confident of getting it, as the demand for tonnage is good. Boats that have gone to Portage have been receiving very poor dispatch and so much time has been lost there that owners say they cannot afford to go to Portage for 20 cents, as they can get cargoes for Lake Michigan ports at better rates, and it would pay them to go to Lake Michigan ports even if they had to go to Lake Superior for return cargoes, as many steamers have done during the past few weeks.

It is regarded as probable that carrying record breaking cargoes on the lakes will take a rest for some years after the appearance of the Bessemer steamer, Samuel F. B. Morse. After she makes a record there will be nothing to talk about in the line of cargo record breaking except reminiscences. She may occasionally break her own cargo record when the draft of water will admit it, but that will be all. Vesselmen are of the opinion that the Morse is the lagest representative of the lake vessels that will ever be built.

During the month of July the shipments of ore from Two Harbors amounted to 490,270 tons. Since the season opened the shipments from there have amounted to 1,366,310 gross tons as compared with 1,226,882 tons for the corresponding period last season. The shipments from Two Harbors are now one-half as large as the entire shipments from there last season. The receipts of ore at the Allouez bay dock have been 307,000 tons for the season thus far, and the shipments are not far below that figure. The shipments of the Missaba road are not available.

The Ship Owners' Dry Dock has a good deal of work on hand these days. The Aurania, which collided with the Ed Smith, will require a number of new frames and several new plates. The Samuel Foster, which was purchased last week by J. C. Gilchrist, is being dismantled and converted into a barge for carrying iron ore. A survey of the John Mitchell was made by Mr. Coffin, representing the insurance company, and Capt. Benham, representing the owner. The bottom planking and keel are pretty badly damaged. The John Craig is receiving new rails, some new stringers and outside planking.

It is expected that ore shipments will be lighter for the next few weeks, but as there is an improvement in the grain and coal trade the lull in ore carrying may not seriously affect freight rates. Inquiries are already being sent out for September grain tonnage from the head of the lakes, and as the crop reports are excellent, a busy fall is said to be assured. However, as an owner remarked this week: "What would have been a harvest for freight earners a few seasons ago is now only an ordinary picking, since the five and six thousand ton boats are always ready to gobble up charters."

H. C. Graves. who has been in charge of the local hydrographic office since the outbreak of the war, at which time Ensign Cole, U. S. N., was detailed to active service, has been appointed a nautical expert on the United States coast and geodetic survey. His salary in his new position will be $1,800 a year. Mr. Graves has been in Cleveland a little over three years and has made many friends by his affable and courteous demeanor. At the recent civil service examination for nautical expert he obtained a high standing. It is probable that he will be assigned to work on the Pacific coast, after a stay at Washington in the office of the coast and geodetic survey. His successor in Cleveland has not yet been named.

## FLOTSAM, JETSAM AND LAGAN.

It is said that Crozier, who invented the disappearing gun carriage, got his idea from a Kansas prairie dog jumping into its hole.

The Ludlow Valve Co., of Troy, N. Y., recently shipped to Mexico the largest and heaviest valve ever made and cast complete in a single shop. It weighed 34,500 pounds.

A Pious Opinion—"Rabbi, which is the happier man, one with £100,000, or one who has seven daughters?" "The latter, my friend, without doubt." "Why?" "The man with £100,000 wants more, the other doesn't."

The cable hoisting machines to be used by the British government in raising its telegraph cables in British Guinea will be built by the Weber Gas and Gasoline Engine Co., of Kansas City, Mo. The six machines will cost $20,000.

Fifty-eight vessels fly the Hawaiian flag. Of these twenty-seven are steamers, three ships, eight barks, eighteen schooners and two sloops. The aggregate tonnage is 30,382. Thirty-one of these vessels were built in the United States.

The steel tow-barge, John A. Rœbling, built in West Bay City, Mich., and hailing from Duluth, has a capacity of 4,693 gross, and 4,447 net tons, according to the measurements of the Bureau of Navigation, Treasury Department, Washington, D. C.

The net decrease in wheat stocks at the head of the lakes during the month of July, amounted to 277,061 bushels. The receipts for the week amounted to 97,391 bushels, and the shipments to 282,161 bushels. Stocks in store last Saturday amounted to 1,247,548 bushels.

William F. Wagner, an electrician, living at Superior, Wis., has invented a naval torpedo which he claims has advantages over either the Whitehead or the more recent Sims-Edison. It is operated by electricity, and is cheaper and more powerful than any now in use.

As yet the iron industry, says the Duluth News-Tribune, shows none of the oft-predicted ill-effects that would be occasioned by the outbreak of hostilities between this country and Spain. All the mines on both ranges are now shipping, and ore is coming to the docks faster than ever before.

In the suit brought by the Thames & Mersey Insurance Company against Joseph Leiter, of Chicago, for premiums due on grain shipments Judge Daly in the New York Supreme Court, has signed an order permitting the service of the summons by publication. The amount sued for by the Thames & Mersey is $81,915.

The rate war between the Canadian and American lines on the St. Lawrence for summer tourist travel is steadily getting hotter. The American line is compelled to make some hard races to get to Montreal in time to catch the Quebec boats, which are owned by the opposition. The time is rapidly approaching when passengers will be carried for nothing down the St Lawrence.

Great Lake shipbuilders have another "chiel amang 'em takin' notes" at present in the person of John Shearer, of Glasgow, the builder of the only harbor ferryboat that ever crossed the Atlantic under her own steam, and which he recently delivered at Halifax, N. S. Mr. Shearer is making an extended tour of the St. Lawrence and Great Lakes before returning home.—Marine Journal.

One of the last of the old wooden ships in the British navy is doomed. Orders have been given for the sale of the Nelson, which has been lying in Melbourne harbor for many years past. She was launched in 1814, and was then the largest English line-of-battle ship. Her figure head is a bust of Nelson, with "England expects that every man this day will do his duty" on a scroll beneath. The oak of which she is built is as sound as ever.

Munsey's Magazine reports that on one occasion Capt. Sigsbee deliberately scuttled the ship he was commanding. It was the Blake, in which he was engaged in deep sea sounding. In a hurricane and heavy sea she was drifting on a reef, dragging her anchors. Where she lay there was a soft, sandy bottom. The captain ordered her scuttled, and down she went. Later she was pumped out and raised—an expensive operation, but far less costly than building a new ship.

At a recent meeting of the Knights of Labor of the State of New York, the following resolution was adopted: Resolved, that the industry of shipbuilding, which utilizes American materials and employs American labor in its numberless ramifications, from the mining of the ore to the weaving of the colors, should be as much encouraged and protected as any other American industry, and, in the name of American labor, we say to our legislators, "Don't give up the ship."

Inventor F. A. Knapp, has for some time been in Washington endeavoring to interest the government there in his roller boat, with a view of making a large one, or at least, what an ordinary person would call large, though perhaps it would only be a toy to Mr. Knapp, one that would accommodate 30,000 men or so, and having a speed of some fifty miles an hour. Of course the boat could go faster than that if it wished, but fifty miles would be the minimum. Eight hundred feet long, this boat will be, and two-hundred feet high, and besides being able to carry 30,000 tons of coal she will, says a circular, be built of such strength as to be able to repel an attack. This boat will have an armament of eight rapid firing guns, and Mr. Knapp laughs at torpedoes, the distance from what might be called the outer peel to the core being so great that persons inside at dinner would experience a sensation as if the cook had tripped in the kitchen, experiencing a slight jar. As may be gathered from the figures, this boat will be larger and faster than the one Mr. Knapp had in Toronto Bay, which went four and one-half miles an hour at a spurt. But then Mr. Knapp let them put the engines in when he was not looking, on the gravity plan, which does not enter into this gentleman's theories. He is eight or nine cycles ahead of gravity, and is a very clever inventor. Mr. Knapp has distributed circulars regarding his boat, offering to build one in ninety days for the government.—The Canadian Manufacturer.

## A BRITISHERS VIEWS OF THE GREAT LAKES.

A correspondent of the London Mariner under the nom-de-plume of Detroit and whom we are inclined to believe is Mr. John Shearer, of Glasgow, writes that journal as follows:

It is always a surprise to our English and Scotch friends who visit us, on seeing these vast inland seas of fresh water, and the large population which crowds their shores. If he is engaged in mechanical pursuits, directly or indirectly, his interest is increased when he informs himself of the extent of the mechanical industries of the region adjacent to these bodies of water. This is in abundant evidence at the more easterly portion, but as he goes westward, the mineral wealth of that region impresses him with its vastness.

It is in part only that the mineral products, such as copper and iron, contribute to the general prosperity, wheat being the most important, and the immense quantities which are moved over these lakes are simply astounding, in both the grain in bulk and the manufactured flour. If our visitor is of our own profession we can show him machine shops all along the shores, equipped with the most modern tools and appliances to quicken and cheapen production for those who make a speciality of steam engines produce the very highest type for workmanship and economy. Our visitor finds nothing new in design, except, perhaps, in a few instances of land or stationary engines, while the marine engine designs are so nearly alike to those of his own country as to suggest probable copy.

To the ship-yards, however, he is attached by the fine tools and modern appliances with which they are equipped; every advantage is taken that labor-saving tools can give, resulting in furnishing a cheap vessel, but of the strongest character, and in the shortest possible time. The cheapness results from the low prices of steel-plating, angles, beams, etc., that can be procured almost at their doors, from the mills, which are their neighbors in fact.

The area and extent of the series of lakes, as can be seen by consulting a map, is very considerable, and a goodly proportion of the cities which line their shores are equipped with large engine shops, ship yards, and graving docks. Beginning at Buffalo, the eastern end, they extend to the extreme western end at Duluth or West Superior, over 1100 miles, the most remote from the sea at West Superior having a fine graving dock to accommodate vessels of 500 feet in length and over; here, too, is the birth-place and home of the celebrated "whale-back" vessels.

The freight vessels must carry their heaviest cargoes under 16 feet of draught, consequently they have great breadth of beam, and are of full lines suitable for a 12-mile speed or less; they have small engines and boiler power, with the machinery placed well toward aft. Some of the newer vessels approach very nearly to 500 feet in length, and others now building may exceed that length. The gross tonnage passing through the Detroit river or the "Soo" locks is very great, and is a subject to which a boastful resident often alludes, generally in comparison with the traffic through the Suez canal.

The loading and unloading of cargoes is done by special appliances in exceptionally quick time—likewise the coaling, or "fuelling" as they term it here—this hurry is necessitated from the fact of the short season of open navigation on the lakes, and also for economic reasons. Sometimes the coaling is done from elevated pockets and chutes, at other times, and according to location, from large scows or floats filled with coal-laden railway cars, each car holding about 15 tons, the hoisting apparatus is powerful enough to lift the car and its load speedily over the deck of the steamer, and dropping the whole of its contents into the bunkers at one discharge regardless of the consequences.

Formerly the passengers over the lakes were taken on the freighters at the average speed of eight miles per hour sometimes reaching to ten statue miles (knots are unknown here), but for the past four years two large and speedy boats carrying passengers only have traversed the lakes at a speed of 20 miles per hour on an average for the distance from Buffalo to Duluth of over 1,100 miles.

These boats are equal to any afloat in model, hull construction, cabin accommodations and finish, and they have electric lighting entire, and ice making machines.

In their machinery and boilers they are up to, if not in advance of, any steamer afloat, using 220 lbs. steam pressure in their quadruple expansion engines, of which there are two sets upon twin screws on each boat; the pressure carried on the boilers is 265lbs. and the boilers are of the water-tube Belleville type. The engines develop about 6,000 indicated horse-power, with a portion of the boilers in action, and have a reserve power of 2,000 more for the sometime necessity of making 22 miles per hour for a short period, in making up time lost by fog or bad weather.

The screws are 13 feet in diameter, and the engines make from 104 to 120 revolutions per minute.

From Niagara Falls are sent the powerful electric currents, being the largest production from any single point in the world. Already machine shops, ship-yard plants, grain elevators, etc., are equipped with its electricity. It is destined to make the vicinity, say within a radius of 30 miles, a great manufacturing centre, and we can then realize a city of manufacturing industries free from the usual smoke nusiance.

Turning back again to the freight steamers of the lakes, there can be found evidence of progressive engineering in them, such as triple and quadruple expansion engines in the newer constructions, using steam pressure reaching to 200-lbs. In two or three cases water-tube boilers are used of the American type, the French type being found only in the passenger boats alluded to above.

In further evidence of progress, we may mention the many installations of the Howden system of boiler working to be found, and one or two of the induced draught system, the first being the more popular, through the personal efforts of Mr. Howden's agent here, and not from economic superiorty.

It will be well not to conclude this article without referring to troubles the owners have to encounter in getting good firemen, for here too the union society and the pestilential walking delegate are in evidence all the time. Their injudicious interference and arbitrary acts prevent the training and keeping of a set of firemen for a full season; the result is not only inconvenience but the most wasteful use of the fuel. Another trouble is from whiskey and the obstinacy which are firemen's characteristics, always to be found active as the season draws near its end.

## LONGITUDINAL BULKHEADS UNSAFE.

A writer in the Scientific American arguing against the use of longitudinal bulkheads, referring to their use on the ill-fated French liner La Burgogne, says: We refer to the fact that the ship commenced to heel heavily from the moment she was struck, and that the decks before she went down were inclined at an angle of 45 degrees. This heel was due to the fact that the longitudinal bulkhead which divides a ship from stem to stern into two equal halves prevented the inrushing water from rushing clear across the vessel, and threw her out of trim. As the heel increased, the water must have risen above the lower and possibly the upper row of gangways and portholes, and finding its way in through these it must have hastened the end. It was the longitudinal bulkhead that caused the British battleship Victoria to capsize after she was accidently rammed by the Camperdown. It is a question well worth considering whether the safety of a vessel would not be better secured by making the transverse bulkheads more numerous and dispensing with the longitudinal bulkhead except as a division between the engine rooms.

## CARGO BOATS WITHOUT A PASSENGER LICENSE.

The local steamboat inspectors at Cleveland have sent out the following letter to the collector of customs, Toledo: "We hear of freight and towing steamers carrying people to and from ports in this inspection district, and contrary to law. Will you please instruct your deputies to advise the owners and masters of this class of steam vessels that the law will be enforced, and this practice abated, through your office."

A large number of people who have beeu figuring on making a trip up the lakes on freight boats will be disappointed Quite a few who were booked for a ride have been turned down. Most of the owners were notified that the law which prohibits the carrying of passengers on steamers that are not licensed will be enforced. The masters of freighters will hereafter have to report to the customs officials whether or not they have any passengers, and if a boat is caught doing passenger business without a passenger license she will be fined $500 and the master's license will be suspended. Since the warm weather set in most of the big freight steamers have been crowded with passengers, and in some cases some of the members of crews were forced to give up their quarters. The sailors reported the matter to the local inspectors and they decided to put a stop to the practice. Vesselmen as a rule will be very glad to have the rule enforced, as they are unable to take care of all the people who want to ride on their boats. Coal and ore shippers are bothered almost as much as vesselmen. Only a small number of the freight steamers are licensed to carry passengers that are provided for in an extra sleeping room or two connected with the crew's quarters, and yet the number of passengers that have been carried on the freighters thus far runs into the thousands. It is strange that united action is not taken by the regular passengers lines against the abuse of a privilege that should be confined to the shipowner and his immediate friends. The men who own the vessel would certainly welcome any action that might be taken by passenger lines. In some cases they are forced under difficulties which they encounter in securing cargoes, to actually turn over the passenger accommodation of their vessels for a whole month at a time to the shipper who furnishes them with a few cargoes during the season. Such a condition does not exist anywhere else in the world, and should not be tolerated any longer on the lakes.

## THE HEAVENS IN AUGUST.

Astronomical data for August, 1898, furnished the MARINE RECORD by the Washburn, Wis., observatory :

Mercury is an evening star, and reaches greatest elongation east, August 9. It will then set at 8:05 p. m., near the west point of the horizon. Venus is the evening star, and is still increasing in brilliancy. The planet will set from 9:05 to 8:10 p. m. Mars appears in the morning sky, to the east, and rises from 12:20 a. m. to 11:55 p. m. Jupiter is low in the west, and sets from 9:40 to 7:55 p. m. Saturn is low in the southern and southwestern sky in the evening, near the bright red star Antares.

The times of sunrise and sunset at Milwaukee for the month are as follows :

| | SUNRISE. | SUNSET. |
|---|---|---|
| August 1, | 4 hours, 42 minutes. | 7 hours, 13 minutes. |
| August 11, | 4 " 53 " | 7 " |
| August 21, | 5 " 4 " | 6 " 45 " |
| August 31, | 5 " 15 " | 6 " 28 " |

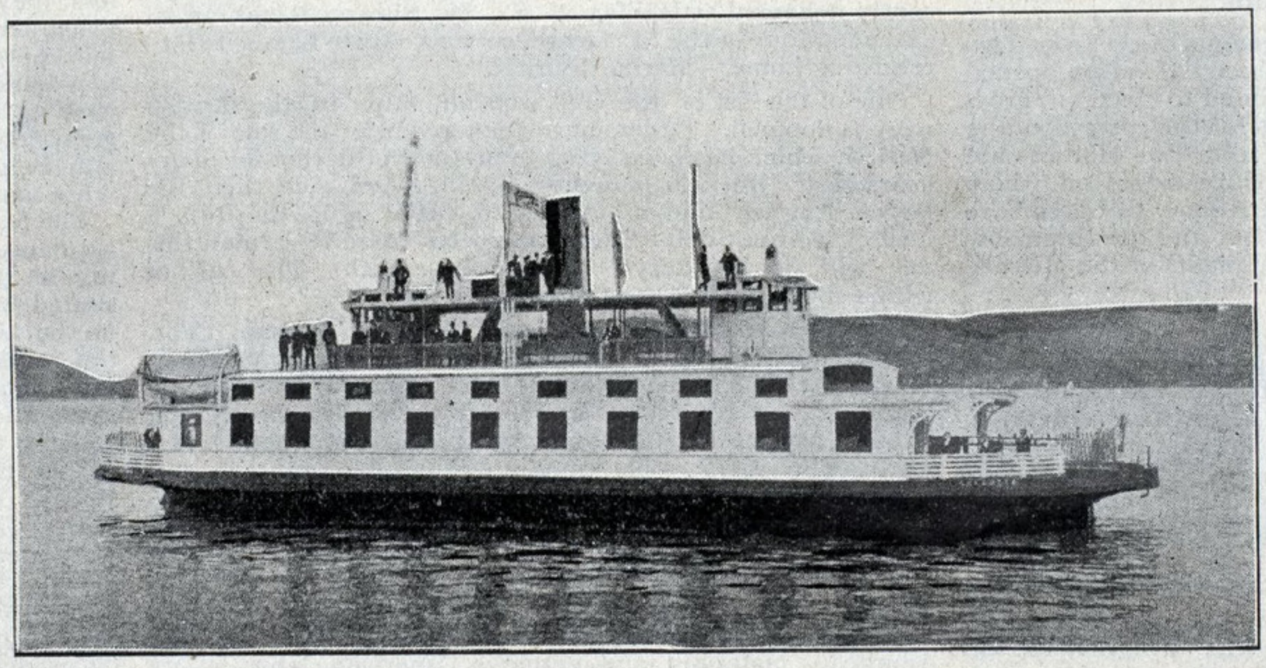
The times of the moon's phases are :

| | | | | | |
|---|---|---|---|---|---|
| Full moon, | August 1, | 10 hours, | 29 minutes, | p. m. |
| Third quarter, | " 9, | 12 " | 13 " | a. m. |
| New moon, | " 17, | 4 " | 34 " | a. m. |
| First quarter, | " 24, | 2 " | 32 " | p. m. |
| Full moon, | " 31, | 6 " | 51 " | a. m. |

The principal fixed stars visible during the month in the evening hours are: To the west, Arcturus and Antares; near the meridian, Vega ; to the east, the bright stars of the constellations, Cassiopeia and Andromeda.

## GRAPHITE AS A LUBRICANT.

The use of graphite as a lubricant is now recommended by the organ of the Prussian steamboiler inspection society. An important condition, however, is that the graphite must not only be free from all foreign bodies, such as quartz, but also in the shape of flakes, which cling to the rough surface of the metal and fill up all irregularities left in the manufacturing. Such graphite, if used alone, is, according to recent experiments, three times as effective as the best mineral sperm oil, and in the case of simultaneous employment of a like quantity of lubricating oil, six times as efficacious. According to the "Hannov, Gewerbeblatt," Prof. Kingsburg is said to have found that while heavy mineral oils showed a coefficient of friction of 0.14, the same volumes of oil with graphite had one of only 0.07. In the necessary flocculent form, which is the product of a doubtless expensive chemical treatment, graphite is at present only placed upon the market from two places, viz., from Ceylon and from Ticonderoga, in the state of New York. The mines at the latter point are owned and operated by the Joseph Dixon Crucible Co., of Jersey City, N. J.



**Clyde Built Ferry Boat Chebucto.**

The steel ferry boat Chebucto, herewith illustrated, has just been placed in service between Halifax and Dartmouth, N. S., a distance of about two miles. She was built on the Clyde, and is remarkable as being the first boat of her class built there, also that her builders took the contract out of the hands of American and Canadian competitors, notwithstanding the model is such as is used for vehicular, railroad cars and passenger traffic on American rivers. Her principal dimensions are: Length over all, 140 feet; keel, 123 feet; extreme width, 50 feet: molded beam, 33 feet; molded depth, 13 feet 7 inches; built of steel and rated in the highest class at Lloyds.

## DREDGING AT LORAIN.

At noon on Tuesday the bids for the improvement of Black river for which $75,000 worth of bonds are about to be issued, were opened in the city clerk's office. All the bidders or their representatives, four in number, were present and awaited the result of their respective bids.

The city engineer's estimate upon the work to be done was as follows: For logging $10; for removing mud 14 cents; removing shale, 70 cents. The bids were as follows;

John Stang, logging, $10; mud, 7½ cents; shale, 35 cents.

Breyman Bros., no bid on logging; mud, 10 cents; shale, 30 cents.

Carkin, Stickney & Cram, logging, $10; mud, 13 cents; shale, 42 cents.

L. P. and J. L. Smith, logging, $10; mud, 10 cents; shale, 50 cents.

Mr. Stang's bid was the lowest. His bid is very little more than half the original estimate of the cost of the work.

## NOTES.

A LARGE warehouse has been completed by the Great Northern road, at Superior. It is the largest on the Great Lakes, being 1,540 feet long by 132 deep, and two stories high. There is room to accommodate at one time six of the largest vessels sailing on the lakes. Contracts have been let for another warehouse of the same kind, though smaller. It is reported that it is the intention of the road to build a costly steel elevator.

SECRETARY OF THE NAVY LONG on July 23, approved the findings and sentence of the court martial in the case of Civil Engr. U. S. G. White, convicted of neglect of duty in connection with the construction of Brooklyn dry dock No. 3. The sentence of the court is that he be suspended from rank and duty on furlough pay for three years, and to retain his present number in his grade until he shall have lost two numbers. Mr. White was assistant to Civil Engr. Menocal in the supervision of work on dry dock No. 3.

THE Chicago Pneumatic Tool Co. received orders, in its mail of July 25, for 78 pneumatic tools (four of which are to go to the Imperial Chinese Railway) covering a variety of tools as follows: 44 pneumatic hammers, 8 pneumatic holders-on, 6 riveting machines, 4 Boyer piston air drills, 12 breast drills for wood boring, 2 air hoists, 2 flue welders. For the dull summer season this is a very gratifying showing for one day's mail; and, at all events, it indicates pretty closely the popularity of this company's tools.

GREAT BRITAIN is to build four more battleships, four cruisers and twelve torpedo boat destroyers within the next three and a half years, at a total cost of £8,000,000. In addition to the regular annual appropriation granted for the construction and up keep of the navy, Mr. Goschen, First Lord of the Admiralty, in the House of Commons, on July 22, stated the government adhered firmly to the idea of maintaining a navy equal to any two of Great Britain's strongest naval rivals. Russia's naval programme, he said, had made England's policy of augmentation necessary.

THERE is some growling in the Army because the Navy will get all the prize money and the Army will get none, as a result of the war. The Navy people reply that the Army gets $600,000 more a year, rank for rank and man for man, than the Navy, and that they would willingly forego the prize money for the cash distribution of $600,000 annually. It has been thirty-three years since thelast war, they say, which means that nearly twenty million dollars have gone as a practical bonus to the Army. Other considerations enter into a determination of the question raised and the conditions controlling the Navy and Army are so unlike that it is very difficult to strike a just balance between them.

THE American Shipbuilder, New York, rises to remark that "Spain has now the largest submarine navy in the world." The question of ownership is, however, not quite clear at this time. Some proceedings must yet be taken, or not taken, to show title, p'raps Neptune captures some of it.

THE leading article in Modern Machinery, of Chicago, for August, is a description of the pneumatic steering gear of the United States monitor Terror, by H. A. Spiller, marine architect: "Thinking by Machinery," is the title of an article devoted to the subject of mechanical devices for solving problems without the laborious process of mental calculation. Liquid air can now be made at a cost which justifies its serious consideration for use in scientific and industrial applications. The perfected processes of Prof. Linde and Mr. Tripler are described in an article on "Liquid Air as a Commercial Product," together with some accompanying suggestions as to the fields of usefulness for this new commodity. E. A. Rix, a prominent mining engineer of San Francisco, describes a device recently installed in a California mine for reheating compressed air for use in pumps. W. E. Willis, whose article on "Automobile Torpedoes" in a recent number of Modern Machinery was widely copied and commented upon, contributes an article on "Types of Rotary Motors," in which is described some of the more notable efforts in the field in which the achievements of Parsons have, Lord Kelvin says, placed his name next to that of Watt.

## SPAIN'S LOSS OF EMPIRE.

On his accession to the Spanish throne in 1556, Philip II found himself ruler of the greatest empire the world had seen since Rome was at the zenith of its power. Its navies were famous for their greatness and they ruled the ocean, its armies were famous for their prowess, she swayed the destinies of Europe, had possessions in all the continents, and may be said to have owned the Americas, north and south. Samuel Johnson, writing as recently as 1740, when complaining of the poor people's hardships, said:

> Are there no regions yet unclaimed by Spain?
> Quick, let us rise, those happy lands explore,
> And bear oppression's insolence no more.

The Spanish empire was the result of marriages, conquest and discoveries; its decline and fall may be ascribed to the ruthless character of the Spanish people. When Columbus discovered San Domingo, it had a population of 2,000,000; in 1530 this population had dwindled to 350,000. Cortez in Mexico and Pizarro in Peru were ideal Spanish conquerors.

In the latter part of Philip's reign (he died in 1598) Spain lost all, or nearly all, of her dependencies in North Africa, early in the next reign, Burgundy, Naples, Sicily, and Milan. In 1609 the Netherlands were lost; in 1628, Malacca, Ceylon, Java, and other lands; in 1640, Portugal; in 1648 all claims were renounced to Holland, Brabant and parts of Flanders; in 1649 were lost Maestricht, Hertogenbosch, Breda, Bergen-op-Zoom, and many other fortresses in the Low Countries, in which year the crown tacitly surrendered supremacy on the seas to northern Europe; in 1659 Rousillon and Cardague were ceded to France, making the Pyrenees the boundary between the two counties; in 1668 to 1672, the last of Flanders was given up; in 1704, Gibraltar was lost; in 1791, the Nootka Sound settlements; in 1794, San Domingo; in 1800, Louisiana; in 1802, Trinidad; in 1819, Florida; from 1810-21 were lost, Mexico, Venezuela, Colombia, Ecuador, Peru, Bolivia, Chile, Argentina, Banda-Oriental, Paraguay, Patagonia, Guatemala, Honduras, Nicaragua, San Salvador, Haiti, and numerous islands pertaining to the American continents, all the possessions in the Western Hemisphere, in fact, save Porto Rico and Cuba, which already apparently are as good as lost. The future of Spanish Morocco, and of the Philippine, Caroline, Sulu, Ladrone and Canary Groups has yet to be settled.—Memphis Commercial.

## PIG IRON AND COMMERCIAL PRIMACY.

The commercial primacy of the world belongs to the country that can produce the cheapest pig iron. For this carries with it the ability to command the cheapest machinery and the cheapest transportation, which, in their turn, render possible the conversion of raw materials into manufactured products and the delivery of these to the consumer at the lowest attainable range of cost. Iron and steel are produced in the least favored localities of the United States as cheaply as in Great Britain; in the most favored localities they are produced more cheaply. Yet, in the very center of American iron and steel production the ore and the fuel have to be brought together from points a thousand miles apart, while in Great Britain a hundred miles is quite an exceptionally wide interval between the two. How has this formidable handicap of 900 miles of transportation been overcome? How has it become possible to produce a ton of pig iron in Pittsburg to-day at about the same price as the ore entering into that iron cost fourteen years ago? To be strictly accurate, the answer would have to enumerate a variety of causes, including improvements in blast furnace construction and practice, and economies in the production of coke. But underlying them all is the controling influence which determines the cost of the ore—the depth of water in the lake channels. By every foot that this depth has been increased the distance between Duluth and Cleveland has been virtually shortened by 100 miles, so that in the 40 years in which the depth of water on St. Clair Flats has been doubled, and a navigable depth of 20 feet has been established in the St. Mary's Falls canal, the cost of transporting a ton of ore on the lakes has come down from four mills to six-tenths of a mill per ton per mile.—From "The Great Lakes and Our Commercial Supremacy," by John Foord, in North American Review for August.

## THE ENGLISH OF IT.

The Marine Journal, of New York, is a very fine paper, its editor possesses a keen eye for good "copy." That why in its issue of July 9 there appears an article from the Syren and Shipping of June 15, on "The Right Sort of Shipmaster." We knew when we inserted the screed that it was good, but it is, all the same, satisfactory to find our opinion backed by our American confrere. We have only one little fault to find. Next time you do a lift from our columns, M. J., dear, you might just add a small note of acknowledgement, will you? We would do the same for you, you know, should the opportunity ever arise.—Syren and Shipping, London.

## THE DEATH OF CAPT. ROBBINS, U. S. L. S. S.

Capt. Nathaniel Robbins, superintendent of the eleventh life-saving district, died on board the revenue cutter Fessenden at Bailey's Harbor, Wis., on Monday night. Death was caused by apoplexy. Captain Robbins was a New Englander, and hailed from Harwich, a village near Cape Cod. He had under his charge thirty stations, including Milwaukee and Chicago, and disbursed upwards of $150,000 each year. He was known as a very efficient, hard-working officer. His remains were taken to Grand Haven on the Fessenden, and prepared for burial at St. Joseph, Mich.

Nathaniel Robbins, born 68 years ago, went from his home on the Cape on a fishing smack when but 11 years old, worked his way to a master's position, and for 15 years sailed to the West Indies and to South America. In 1856 he sailed from New York to the St. Lawrence, and up the river to the lakes, the schooner he commanded, loaded by her owner with machinery and stores for a large saw mill on Lake Michigan. Two or three vessels had gone out from the lakes to the ocean, but his was the first to enter from ocean to lake. At

**The Late Capt. Nathaniel Robbins,**
Supt. Eleventh U. S. L. S. District.

Mackinaw a pilot was hired, but a storm drove them toward the Michigan coast, and in the night they saw a harbor light and Capt. Robbins said to the pilot: "That's St. Joseph." The reply was: "No." They sailed on and were driven on to the beach a few miles below, where ship and cargo were lost, but the crew were saved. He had never been wrecked, and his fifteen years of watching sea and shore on the Atlantic, and his careful study of seamanship and charts led him to know his position better than the pilot, whose guidance, or lack of it led to the casualty.

His young wife, with her babe less than two years old, left the Harwich home and met him at Benton Harbor a year later, and for some 25 years he sailed on the lakes, and was in business at Benton Harbor and elsewhere, until chosen to fill the responsible position he occupied for thirteen years.

## FASTER SPEED WANTED.

Secretary of the Navy, Long, on July 26, in order to obtain the highest possible speed for the three new battleships recently authorized by Congress, issued the following notice to shipbuilders: "The Department will, in awarding contracts for the construction of battleships Nos. 10, 11 and 12, under its advertisement of June 17 last, give preference (other things being equal) to such bids as offer to guarantee the highest rate of speed and greatest coal endurance, the total weight of engines, boilers and coal, and space allowed therefore, to remain as now fixed by the circular defining the chief characteristics of said vessels and the department plans and specifications, and the vessels to have a steaming radius of not less than 5,432 knots at a speed of ten knots.

## IMPORTANT STEAMSHIP CONTRACT.

The Manufacturers' Record is officially informed by C. B. Orcutt, President of the Newport News Shipbuilding & Dry Dock Co., that contracts have been secured by this corporation for three steamships for the Morgan line. Several of this company's steamers are now being used as auxiliary cruisers. The vessels to be built will average about 5,000 tons each, and will be 400 feet long, 50 feet beam, with a depth of about 35 feet. They will be three-deck ships, constructed with water tight bulkheads, steel hulls and will be equipped with triple-expansion engines, giving them nearly 4,000 horse-power. The cylinders will be thirty-two, fifty-two and eighty-four inches in size, with a working steam pressure of 165 pounds. The propellers will be single screw, eighteen feet in diameter. Steam steering gear will be provided, also fire-extinguishing apparatus and auxiliary engines for handling cargo. The ships will also be heated by steam and lighted by electricity. In most of the details they will be duplicates of El Rio, of the Morgan Line. Each will be provided with two steel masts and will be rigged with fore and aft sails. The average speed will be seventeen knots per hour when loaded. The ships, when completed, will be placed in service between New York and New Orleans, and are calculated to make the trip within five days.

## OHIO HARBOR IMPROVEMENTS.

The U. S. Engineer in charge of the river and harbor improvements at Ohio ports in his annual report to the War Department recommends a system of small detached breakwaters for Huron, O., rather than an extension of the piers. The completion of the improvements at Port Clinton will give that port facilities to meet all requirements for some time. The following table shows the aggregate appropriations and expenditures, respectively, for all the harbors in the district up to the last fiscal year:

| Harbors. | Appropriations. | Expenditures. |
|---|---|---|
| Monroe | $ 245,515.27 | $ 242,071.55 |
| Toledo | 1,622,200.00 | 1,611,821.05 |
| Port Clinton | 88,000.00 | 80,284.78 |
| Sandusky | 475,792.00 | 476,435.71 |
| Huron | 172,273.71 | 172,261.94 |
| Vermillion | 132,701.28 | 132,681.71 |
| Lorain | 292,204.77 | 292,202.77 |
| Fairport | 405,873.53 | 377,384.36 |
| Ashtabula | 662,401.21 | 661,147.15 |
| Conneaut | 272,629.39 | 231,643.00 |

The engineer says that the sum of $626,750 is made to extend the piers at Monroe harbor, and he does not think such an expenditure justified. There is no need either, he says, of deepening the channel at that place to fourteen feet.

## SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

| Sunrise. | Bearing. | Bearing. |
|---|---|---|
| August 7 | E. 22° N. | E. N. E. |
| August 10 | E. 21° N. | E. by N. ⅞ N. |
| August 13 | E. 20° N. | E. by N. ¾ N. |

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

| Sunrise. | Bearing. | Bearing. |
|---|---|---|
| August 7 | E. 23° N. | E. N. E. |
| August 10 | E. 22° N. | E. N. E. |
| August 13 | E. 20° N. | E. by N. ¾ N. |

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

| Sunrise. | Bearing. | Bearing. |
|---|---|---|
| August 7 | E. 24° N. | E. N. E. ⅛ N. |
| August 10 | E. 23° N. | E. N. E. |
| August 13 | E. 21° N. | E. by N. ⅞ N. |

LAKE SUPERIOR, LAT. 48° N.

| Sunrise. | Bearing. | Bearing. |
|---|---|---|
| August 7 | E. 25° N. | E. N. E. ¼ N. |
| August 10 | E. 24° N. | E. N. E. ⅛ N. |
| August 13 | E. 22° N. | E. N. E. |

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

MARINE RECORD

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CLEVELAND, O., AUGUST 4, 1898.

## BRITISHERS DARED.

We have yet the America cup won as a trophy of yacht sailing, and it is the ouly souvenir we have of our American clipper ships, which, away back several decades ago, swept the oceans and the world for speed and construction.

The numerous Valkyries designed by the best foreign talent have proved failures alongside of yachts built in the United States, and the British Royal Yacht Squadron has not a yacht to compare with our output, or to attempt to sail with the vessels that the United States yachting element has, can, and will put afloat, to meet all competitors, as in the days of the old clipper ships, which astonished the world maritime and even others.

The new schooner-rigged yacht Rainbow, again designed by George L. Watson, will certainly meet the fate of the Dunraven, wonder although there is no doubt but that she is a powerful schooner for hard weather, and her dimensions are up to the limit allowed to race for the America cup, according to the deed of gift for two-masted challenging vessels, at the same time nothing can be built in Britain to cross the Atlantic and meet yachts built in the United States. It is possible that some good sailing is carried on in British yachts, but they are generally heavy, clumsy built craft that require a gale of wind and heavy sea to make them move at any gait, while our yachts get over the ground in light weather, and are able to take care of themselves in squalls or in a steady strong breeze even with a lumpy sea.

It would be refreshing to have a proper bout at yacht sailing without the Dunraven unpleasantness which characterized the last race for the America cup, and it would appear as if we must look to the British before any other nation of the earth to compete with. Italians handle small vessels in a masterly way, the French have some elegant sailing yachts, and the northern powers of Europe, such as Norway and Sweeden, have excellent sailors, but it would appear that the United States stands paramount over all nations in yacht building and sailing, and she is likely to continue so.

THE opinion of the United States Attorney-General relative to the war tax on charter party reaches us as we go to press. The tax is applicable only to registered vessels, and does not apply to enrolled or licensed tonnage, therefore, the lake trade is in no way affected. The Attorney-General's ruling is in accord with the expressed views and brief furnished by Harvey D. Goulder, Esq., counsel for the Lake Carriers' Association.

IT is said that President McKinley has declared his belief that a canal at Nicaragua, owned and controlled by the government will henceforth be a necessity to the United States and that he intends making a strong recommendation to the Congress of an appropriation to complete the canal now in progress. It is needless to say that this view, if it is the President's, is also entertained by a large body of citizens, who previous to the war held other views on the subject.

## SHOULD WAR VESSELS BE BUILT AT LAKE PORTS?

There is no question but that permission ought to be given lake shipbuilders to compete with those engaged in the same business at coast ports, for the construction of national tonnage. It is an unrighteous discrimination from every standpoint to exclude lake shipbuilders from participating in the emoluments to be derived from successfully completed national contracts. It is well however, to view the question from every standpoint. A writer in the North American Review for August says:

"The appointment of a Joint High Commission by the governments of Great Britain and the United States of America, charged with the duty of attempting an amicable and mutually satisfactory adjustment of all outstanding disputes, causes of irritation, and questions of commercial policy, between Canada and the United States, embracing trade relations, the sealing question, the Alaskan boundary question and the Atlantic and inland fisheries regulations, is an event of great importance. It is an emphatic indorsement by both governments of the principle of arbitration. It is a movement reflecting the best spirit of the highest existing form of civilization. Perhaps no diplomatic conference has ever been entrusted with more important functions. Upon the issue of its deliberations hang consequences of the deepest importance to the present, and consequences that will reach far down into the future, the unfolding of whose mighty issues, mankind will watch with bated breath."

The Chicago Record editorially opposes the attempt to have the Rush-Bagot agreement, prohibiting the United States from building war vessels on the lakes, altered. The Record holds that once the agreement with Great Britain is set aside there will be nothing to prevent that nation building and maintaining a fleet of war vessels on the lakes, in which case Chicago, as well as the other lake cities, would be in danger of bombardment and destruction in the event of war with the mother country.

The Detroit Free Press says: The Record seems to be crying "wolf" when there is no wolf. An international commission, composed of able Americans, Canadians and Englishmen, is about to take up a number of questions, the settlement of which will be of the utmost benefit to both countries. One of them is the same Rush-Bagot agreement, and it was through Mr. Dickinson's efforts that it was made a part of their program. It is not likely the treaty will be thrust aside altogether. A modification to allow the United States to build war vessels for use by this country on salt water is all the lake shipbuilders ask. Uncle Sam does not necessarily want a fleet on the lakes, nor does he want Canada or Great Britain to maintain one. Both countries may look forward to this contingency of future quarrel and aim in the settlement of the question to avoid such future damage as would result from the existence of two lake fleets of war vessels.

It would be unwise, it is argued, for this country to agree to the total abrogation of the compact. The United States would have much more to lose than Canada in the event of war and the existence of two fleets. The naval fight between the two countries would be a hard one, and if any of her vessels got past ours they would find a rich harvest of lake cities to be bombarded on this side. On the other hand, Canada has nothing worthy of being attacked, unless it be Toronto. One of our large lake cities practically contains more people and property of value than all of her lake cities, excepting Toronto, combined.

## A FRENCH CONSUL'S VIEWS.

M. H. Meron French, consul at Chicago, has contributed an interesting article on the Great Lakes to the July number of the French consular reports.

The surface of the lakes and the canals which connect them," says the consul, "is 95,660 square miles, and in their total they constitute a basin of 270,460 square miles, equal to the area of France, Switzerland, Begium, Holland, and Luxemburg combined. These lakes have a coast line of 3,075 miles. The distance from Ogdensburg, the most easterly point of navigation over United States territory, to Duluth, the most western point, on Lake Superior, is 1,279 miles, while from the most northerly point on Lake Superior to the southern coast of Lake Michigan the distance is 500 miles by direct route.

"A comparative statement of freight tonnage in 1891 gives Liverpool 10,941,801 tons and Chicago 11,031,552 tons. So that you may get a fair idea of the immense movement upon the lakes I present here comparative figures of the Suez canal and that of Sault Ste. Marie. In 1896 there passed the Suez canal 3,647 vessels, representing 8,594,307 to and the Soo, 18,615 vessels, representing 17,249,418 to The average displacement of vessels was 2,728 tons for Suez canal and 927 for the Soo.

"Of the 32,000,000 to 34,000,000 tons of freight wh annually move upon the lakes nearly 10,000,000 tons 1896 were products of iron mines, by far the greater port of which was produced in the United States."

## LAKE SUPERIOR LEVELS.

The July statement of the level of Lake Superior, prepa by Assistant Engineer J. H. Darling, Corps of Engineers, S. A., presents some interesting information. The data taken from the observations at Marquette. The depth water during July improved about 5 inches, as compar with June. While the July level is 6 inches lower than June level, it is 1 inch higher than the average level of lake for July during the twenty-six years that the obser tions have been taken. The report in substance is as follo

"The mean level of Lake Superior at Marquette for month of July, 1898, was 0.84 feet above low water datu This is 0.41 feet, or about 5 inches, higher than in June this year. It is 0.49 feet, or 6 inches, lower than July, 18 and 0.09 feet, or about 1 inch, higher than the mean J level for the last twenty-six years."

It is regarded as certain that the level of the lake will come up to the corresponding depths of the months of year. There is the usual improvement from month month, but the water averages lower. One of the intere ing facts is that while the water for July this year is 6 inc lower than for the corresponding month last year, it is 1 i higher than the average in July for more than a quarter century. It emphasizes the fact that the water a year ago July was quite extraordinary, and that the present depth really better than the average.

## LAKE FREIGHTS.

There is a firmer tone in the freight market at pres than there has been for several weeks past, and an upw tendency in rates, with a fairly brisk chartering.

The Chicago grain rates remain steady at 1 cent on co with enough tonnage to meet the demand yet not so m as to weaken or break the rate. Coal, Buffalo to L Michigan, 30 cents; Duluth, 25 cents; Ohio ports 20 c to Lake Superior, and a strong pull being made for 5 c better to Portage; 30 cents Lake Michigan. The Erie c rate asked is 2¼ cents on corn, but the railroads are carry the greater part of it.

## MILWAUKEE COAL TRADE.

The geological survey has completed its report of coal p duction in the United States for the fiscal year 1897. though Wisconsin produces no coal the report shows t this product forms a very important part of the comme of Milwaukee.

As to the coal trade at Milwaukee the report says: receipts of hard coal were 168,055 tons less than during preceeding year, while the receipts of soft coal by lake sh an increase of 136,068 tons, and by rail a decrease of 38, tons making a net decrease in the supply from all sour for the year 31,987 tons. The arrivals by lake of hard soft coal together exceeded the arrivals of the preced year by 6,045 tons.

During the last two months of navigation lake freights vanced from 20 to 60 cents a ton to all upper lake points der the congested state of business that succeeded the st of the early part of the season. The receipts of hard coal the year aggregated 645,432 tons and of soft coal 910, tons, a total of 1,555,808 tons, of which 62,280 was ship by rail.

## ENLARGED ST. LAWRENCE CANALS.

Upon the completion of the new Canadian canals, C McDougall, the inventor of the whaleback, expects to se big revival of trade on the lakes.

"Next year the new Canadian canal will be opened," s Capt. McDougall this week, "and it will offer a broader f for lake carriers. Boats carrying 2,000 or 2,200 tons will able to go direct from Duluth to Montreal and Quebec thence to England and European ports. The new canal permit of the passage of boats 270 feet long and drawing feet of water. Vessels of this type can sail on the lakes ing the season of navigation, and can then go to the sea remain there in commission all winter, when freight rat the ocean will demand it. Within the next five years pect to see a fleet of at least 100 boats of this class trading tween Duluth and European ports."

## ANNUAL REPORT ON MICHIGAN WATERWAYS.

Col. G. J. Lydecker, Corps of Engineers, U. S. A., engineer officer in charge of the conservancy and improvement of Michigan river and harbor work, in his annual report to the Chief of Engineers states that the twenty-foot channel from Duluth to Buffalo, is completed, with the exception of a portion of Detroit river, near Lake Erie. He suggests several points where the channel could be improved by making it wider. The total expenditure on the work to June 30, 1898, was $2,507,121, and $294,609 was spent during the past fiscal year, largely in the neighborhood of Detroit.

The lower Detroit river now has eighteen feet of water, and the funds available, $607,101, will suffice to make a twenty-foot channel there 300 feet wide. This channel should be 600 feet to make it safe, as should other channels be widened that are now too narrow. Col. Lydecker also reports that surveys by his men are showing a number of detached shoals in channels at different points. He recommends more money to remove them and generally to better the channel at various points. He may be able to do some of this work with the money on hand, but not all.

In connection with the care and development of the channel, Colonel Lydecker points out that last fall the surveys showed a scant 18 feet of water at the Lime Kiln crossing, where there was supposed to be 20 feet. Consequently, during April and May, this spring, he removed 583 tons of boulders and loose stones from the channel, making the depth 19 feet. More money is needed to be expended at Ballard's reef.

A report is made on the work done to complete the new "Soo" lock. The canal has $982,192 unexpended money to its credit.

In reporting on Hay Lake channel, Col. Lydecker says this work, which is about completed, will make a passage 20 feet deep and only 300 feet wide for 10 miles. This is dangerously narrow for the immense and growing traffic, and he recommends that another channel, via West Neebish, be dredged, giving a separate route for up and down-bound craft.

Relative to the Sand Beach harbor of refuge, Col. Lydecker says any big storm is liable to sweep away the main breakwater, it is so weakened, and it should be rebuilt of masonry. Saginaw river, below Saginaw, is reported as having in many places only 10 feet of water. A big appropriation is needed to dredge it.

Relative to St. Clair Flats canal, Col. Lydecker recommends that the present cheap system of caring for it be abandoned. He says it should have one custodian at a salary of $1,200 per year, and six watchmen at $60 per month, a new $5,000 quarters building, a telephone line and a steam launch, all for the proper care of the canal and to enforce the regulations for passage. The colonel also tells of the dilapidated appearance of dikes, on account of the decaying superstructure, and says all the old timbers should be removed to the water's edge, and the earth graded back to proper slope. The pile structures at the ends should be cut down and rebuilt. "The work, being a conspicuous feature in the line of travel, is viewed and criticised by thousands to the great discredit of the service responsible for its unsightliness." Col. Lydecker points out that all this would cost only $45,000, and that the law allows the Secretary of War to expend money for this purpose, without additional legislation.

Sundry civil bill 31,897 requires observations and investigations to be made for the preservation of the 20 foot channel. Col. Lydecker observes that, to make an investigation as complete as the law seems to desire and the needs of the lakes dictate, it will cost not less than $250,000, and he adds, twice that sum would be needed to obtain accurate knowledge of all physical conditions that control lake levels, and of all channels and harbors.

## LOCKING THROUGH ST. MARY'S FALLS CANAL.

Gen. Supt. Ripley, of the St. Mary's Falls canal, says there is no truth in the report that vessels are better attended on the Canadian side than on the American. No complaint has been made to him this year, either for inattention on the part of officers of the canal, or for improper handling of the lines. If there had been any such trouble as alleged, masters of boats would not have been backward in making complaints. The matter has been reported to Col. G. J. Lydecker, Corps of Engineers U. S. A. for investigation. The American locks are manned this year by a larger force than ever before, and vessels do not have to send men ashore except in snubbing down the canal to the lock, and even then, canal men are stationed there to take the lines until the vessels can get alongside the cribwork and let a man off. If vessel masters use the Canadian canal in preference to the American, it is not because they can get better treatment there, but simply because they can secure a quicker lockage through the former, owing to the comparatively small percentage of craft that uses it. In case of a rush through the American locks, even the assistant superintendents handle the lines, if necessary, and they often do so.

## PUSHING HARBOR IMPROVEMENTS.

The expenditures by the government for harbor and other improvements on Lake Superior at present amount to about $125,000 a month of which amount $100,000 a month is expended in the Dututh-Superior harbor and immediate vicinity. The payroll of the government employes alone will amount to $6,000 for the month of July.

In former years the expenditure of $100,000 cared for an entire season.

It is said that the quantity of material removed by the dredges during July will exceed that of any previous month n the history of harbor im rovements at the head of the lakes. Five hundred thousand cubic yards is the largest quantity ever removed in any previous month.

## COAL PRODUCTION.

From advance proofs of the report of the geological survey it is learned the coal production of the United States in 1897 reached 200,221,665 short tons, worth at the mines $198,869,178. This is the first time the 200,000,000 ton mark has been passed.

Colorado and New Mexico furnished 69,076 short tons of anthracite last year. Including Alaska, thirty-one states and territories produce coal, Idaho and Nebraska furnishing but 645 tons. Pennsylvania continues to rank first, with an output of 54,597,851 tons of bituminous and 52,431,763 tons of anthracite; Illinois second. West Virginia increased her lead over Ohio more than 2,000,000 tons, taking third place; Ohio comes fourth, Alabama fifth, Iowa sixth, Maryland seventh, then Kentucky, Colorado and Kansas in the order named.

## LAUNCH OF THE S. F. B. MORSE.

The steel steamer Samuel F. B. Morse, built at the Wheeler yards, West Bay City, to the order of the Bessemer Steamship Co., Cleveland, was launched on Sunday morning last, July 31.

The vessel was ready to launch at noon on Saturday, though by request she was held until three p. m., at which time she had settled down so much that it was found necessary to postpone the launch a few hours longer and at nine o'clock Sunday morning she left the ways.

The Samuel F. B. Morse is a steel steamer of the following dimensions: 476 feet over all, 456 feet keel, 50 feet beam and 29 feet molded depth. Her engine dimensions are 26½, 37, 54½, 80 x 42 inches. Four boilers are 13 feet 4 inches in diameter by 11 feet 6 inches in length, built by Wickes Bros., Saginaw, Mich. The estimated cost of the steamer is $255,000 and her gross tonnage is placed at 6,000 tons.

The new steamer will be ready to leave for Duluth in about three weeks, officered as follows: Captain, E. M. Smith, of Buffalo; first mate, T. N. Bakewell, Detroit; first engineer, H. J. Reynolds, Buffalo; second engineer, E. Roach.

## FAST SHIPS WANTED.

The Engineering News continues its campaign for more speed in the battleships which are about to be contracted for by the government. It says that the claim that if our battleships were made deeper and wider in order to secure the desired increase in speed they would be too deep for our seaports and too large for our best drydocks is not well founded. Inability to enter the shallower harbors of our coast is of no consequence, in its opinion, so long as the battleships can reach a sufficient number of naval stations. From a table of harbor depths at mean low tide it appears that even our present battleships are too deep to enter more than fourteen ports on the Atlantic and Gulf coasts, but battleships of any desired draft can reach Portsmouth and New York navy yards, and the anchorages at Hampton Roads and Dry Tortugas.

The News combats the assertion that the Navy Department decided to give the Alabama, Wisconsin and Illinois a speed of sixteen knots in order to avoid the expense of duplicating drawings, patterns, etc., and declares its belief that "the real reason is a sort of ultra-conservatism that prefers following the beaten path to making any new ventures and prefers to sit comfortably down and rest content with twenty-four feet draught and sixteen knot speed, rather than to attempt to follow English and Continental naval designers in the vast strides which they have made in the past four or five years."

By all means should the best possible speed attainable be given the new battleships, and in working so energetically to this end, the Engineering News has conferred a national benefit in its advocacy of greater speed for our principal naval vessels and we are pleased to see that the agitation commenced by the News has borne good results and that is now positive that those builders guaranteeing the higher speed and coal consumption will be given the preference when the contract is awarded for the construction of the new ships.

## LAKE LEVELS.

According to Mr. G. K. Gilbert, there is at present going on a gradual change in inclination of the general surface of the land, by reason of which the whole lake region is, relatively speaking, sinking in its southwestern half and rising in its northeastern half. The following quotation is taken from an advance copy of the forthcoming report by Mr. Gilbert in the Annual Report of the Director of the United States Geological Survey:

"The land in this region is being slowly canted toward the south-southwest, and the rate of change is such that the two ends of a line 100 miles long and lying in a south-southwest direction are relatively displaced by four-tenths of a foot in 100 years. The waters of each lake are gradually rising on the southern and western shores, or falling on the northern and eastern shores, or both. This change affects the mean height of the lake surface. In Lake Ontario the water is advancing on all shores, the rate at any place being proportional to the distance from the isobase through the outlet. At Hamilton and Port Dalhousie it amounts to six inches in a century. The water also advances on all shores of Lake Erie, most rapidly at Toledo and Sandusky, where the change is eight or nine inches per century. All about Lake Huron the water is falling most rapidly at the northeast, where the distance from the Port Hudson isobase is greatest. At Mackinac the rate is six inches, and at the mouth of French river, 100 inches per century. On Lake Superior the isobase of the outlet cuts the shore at the international boundary; the water is advancing on the American shore and sinking on the Canadian. At Duluth the advance is six inches, and at Heron Bay the recession is five inches per century. The shores of Lake Michigan are provided by the Port Hudson isobase. North of Oconto and Manistee the water is falling. South of those places it is rising, the rate at Milwaukee being five or six inches per century, and at Chicago nine or ten inches. Eventually, unless a dam is erected to prevent, Lake Michigan will again overflow to the Illinois river, its discharge occupying the channel carved by the outlet of a pleistocene glacial lake. The summit in that channel is now eight feet above the mean level of the lake, and the time before it will be overtopped (under the stated assumption as to the rate of tilting) may be computed."

## DETROIT MARINE POST OFFICE.

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To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter giving the date of this list and paying one cent.

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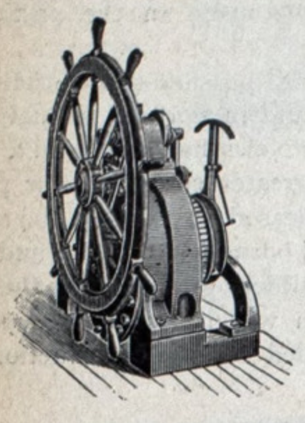

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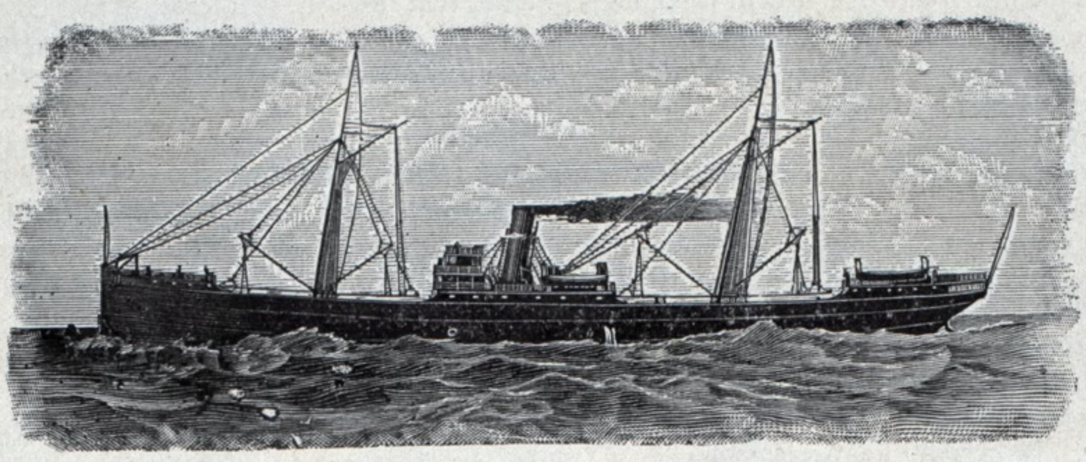

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### THE DAGO HE'S THE HERO.

(From the Coast Seamen's Journal.)

Oh! terrible the story—rapine, murder, foul and gory—
Oh, woe the helpless women on the deck!
When the blasted Lemon-Pelter hit the La Bourgogne a belter—
Good God! the screaming infants on the wreck!

Oh, Frenchy, you're no stoic; you can't rise to heights heroic.
Why, damn you, don't you know the rule at sea—
That the sailor isn't human in the presence of a woman,
That his life is held a forfeit full and free?

There's the Anglo-Saxon seamen, they're the growlers and the spree men,
But they're always to the forward in a pinch;
They're extremely level-headed when disaster's to be dreaded
Yes, they're the true-blue heroes every inch.

But perhaps you may have noted, though it's not so often quoted,
That the Yankee, Juicer, Dutch and Scandyhoo,
Tho' their virtues folks may holler, when it comes down to the dollar,
Are but seamen, and they share the same as you.

They're the gallant Anglo-Saxon, they're the boys to scratch the backs on
When there's danger on the shore or on the float;
But in peaceful avocation they're the "scum of all creation"
Then the Dago he's the boy on whom we dote.

It is stated by the poet, who of course is sure to know it,
That peace hath virtues just as grand as war;
So although the Dago's muscle isn't worth much in a tussle,
It's the cheapest and best upon that score.

POOR JACK.

## TREASURY DECISIONS RELATING TO VESSELS AND MARINE INTERESTS.

CERTIFICATES OF ACKNOWLEDGEMENT OF BILLS OF SALE OF VESSELS ARE SUBJECT TO TAX.

TREASURY DEPARTMENT, July 26, 1898.

*To collectors of customs and others:*

Bills of sale of vessels are not subject to stamp tax under the war-revenue act approved June 13, 1898, but the certificate of acknowledgement required by law to be attached to such documents, and which usually appears as an endorsement to the bill of sale, is subject to a tax of 10 cents, and a stamp must be affixed and canceled accordingly, under the regulations of the act, and especially the provisions of Schedule A, for "Certificate of any description required by law not otherwise specified in this act."

O. L. SPAULDING, Acting Secretary.

STAMP TAX.

Master carpenter's certificate taxable under act of June 13, 1898.

TREASURY DEPARTMENT, July 22, 1898.

Sir: Referring to your letter of the 20th instant, I have to state that to the master carpenter's certificate, under the war-revenue law, there must be attached a 10-cent stamp.

Bill of sale of a vessel, by decision of the Commissioner of Internal Revenue, is exempt from stamp tax.

Respectfully yours,
O. L. SPAULDING, Acting Secretary,
Collector of Customs, Perth Amboy, N. Y.

RULES AND REGULATIONS FIXING SALARIES OF INSPECTORS OF STEAM VESSELS UNDER ACT OF CONGRESS APPROVED MARCH 1, 1895, CONCERNING THE REGULATION OF STEAM VESSELS.

TREASURY DEPARTMENT, July 22, 1898.

*To supervising and local inspectors of steam vessels:*

Under the provisions of Section 4,414 of the Revised Statutes of United States, as amended by the act of Congress approved March 1, 1895, it is provided that the salaries of the local inspectors of steam vessels shall be regulated in proportion to the number of steamers inspected in each of the various districts as follows:

In districts inspecting 100 steamers and less, to a salary of $1,200 per year each.

In districts inspecting over 100 and less than 150 steamers, to a salary of $1,500 per year each.

In districts inspecting 150 and less than 200 steamers, to a salary of $1,800 per year each.

In districts inspecting 200 and less than 300 steamers, to a salary of $2,000 per year each.

In districts inspecting 300 and less than 500 steamers, to a salary of $2,250 per year each.

In districts inspecting 500 steamers and upwards, to a salary of $2,500 per year each.

The act further provides that the basis of salaries from the date of approval of the act, March 1, 1895, shall be on the report of inspections for the preceding year, and thereafter according to the number of steamers reported inspected at the end of each fiscal year, which shall regulate the salaries for the following year, for each local board, as reported by the Supervising Inspector-General.

Therefore, in accordance with the report of that officer for the fiscal year ended June 30, 1898, the salaries of local inspectors of boilers from July 1, 1898, to June 30, 1899, inclusive, are hereby established as follows:

For the districts of Evansville, Ind.; Louisville, Ky.; Memphis, Tenn.; Nashville, Tenn.; Cincinnati, Ohio; Gallipolis, Ohio; Wheeling, W. Va.; Burlington, Vt.; Bangor, Me.; Galveston, Tex., and Apalachicola, Fla., at the rate of $1,200 per year for each local inspector.

For the districts of New Haven, Conn.; Savannah, Ga.; Charleston, S. C.; Dubuque, Iowa; Superior (Marquette, Mich.); Mobile, Ala.; Jacksonville, Fla., and Sitka, Alaska, at the rate of $1,500 per year for each local inspector.

For the districts of Portland, Oreg.; St. Louis, Mo.; Oswego, N. Y.; New London, Conn.; Portland, Me.; Detroit, Mich.; Pittsburg, Pa., and Providence, R. I., at the rate of $1,800 per year for each local inspector.

For the districts of Puget Sound (Seattle, Wash.); Albany, N. Y.; Grand Haven, Mich.; Port Huron, Mich.; Milwaukee, Wis.; Chicago, Ill.; Duluth, Minn., and Norfolk, Va., at the rate of $2,000 per year for each local inspector.

For the districts of Philadelphia, Pa.; Boston, Mass.; Baltimore, Md.; Buffalo, N. Y.; New Orleans, La.: Cleveland, Ohio, and San Francisco, Cal., at the rate of $2,250 per year for each local inspector.

For the district of New York, N. Y., at the rate of $2,500 per year for each local inspector.

O. L. SPAULDING, Acting Secretary.

## NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—WISCONSIN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., July 28, 1898.

WAUKEGAN HARBOR BEACON LIGHT.

Notice is hereby given that, on or about August 10, 1898, a fixed white lantern light will be established at the outer end of the north pier at the entrance to Waukegan harbor, westerly side of Lake Michigan.

The focal plane of the light will be about 30 feet above mean lake level, and the light will illuminate the entire horizon.

The lantern will be suspended from a brown iron post erected on the pier.

GREEN BAY, FOX RIVER ENTRANCE.—Notice is hereby given that, on or about August 1, 1898, gas-lighted buoys as follows will be established to mark the dredged channel from the southerly end of Green Bay into the mouth of Fox river:

ENTRANCE GAS BUOY NO. 1, painted black, and showing a fixed white light during periods of eight seconds, separated by eclipses of six seconds, in 17½ feet of water, on the easterly side of the entrance to the dredged channel from Green Bay.

The buoy will replace the temporary entrance buoy, Straight Channel, No. 1, a black spar, without change in position.

ELBOW GAS BUOY, NO. 12, painted red, and showing a fixed white light, in 14 feet of water, on the westerly bank of the dredged channel, at the turn.

The buoy will replace the Eighth Buoy, No. 12, a red 18-foot spar, without change in position.

By order of the Light-House Board.

RUSH R. WALLACE,
Commodore, U. S. Navy, Chairman.

## AN AMERICAN MERCHANT MARINE.

Something will likely be done after the close of the war toward the revival of shipbuilding in the United States by the establishing of steamship lines sailing under the American flag, encouraged by subsidies from the national government. The difficulty experienced in securing transport ships for troops and supplies will lead to this.

Other countries have successfully built up their foreign trade by subsidizing steamship lines, and at the same time developed a prosperous and large merchant marine. What is to prevent this nation from doing the same? The carrying of our mails, imports and exports in vessels built in this country, flying the American colors, and manned by American seamen, would give us an important prestige throughout the world. Then in times of emergency the government would have at its call all of the ships and seamen needed for auxiliary service.

We have been enriching foreign ship owners for doing our foreign carrying to the tune of about $300,000,000 per annum. It is a disgrace that a country so wealthy as the United States must depend on the vessels of other nationalities to carry its mails, and it is a surprise that the American people put up with it.

The subsidies paid to American shipowners would not be lost to this country as are the payments made to foreign steamship lines for mail, passenger and freight service. The revived shipping and allied industries and the increase of trade would amply repay the outlay in due time, if not to the government, to the people themselves.—Traffic.

## THE SPEED OF RAILROAD TRAINS.

The Railway Age has prepared a table showing the record of fast runs by railroad trains to June 30, 1898. The highest record was made on the New York Central & Hudson River railroad. On May 30, 1893, a train was run one mile in 32 seconds, which is at the rate of 112.5 miles per hour. On the Central New Jersey a train was run on November 19, 1892, one mile in 37 seconds, which is at the rate of 97 miles per hour. The next most rapid run was made on the New York Central & Hudson River, a distance of over 100 miles at the rate of 70.48 miles per hour. The Lake Shore & Michigan Southern made a run of over 200 miles at the rate of 65 miles per hour. No English railroad comes up to these figures. The London & Southwestern made a run of 42 miles at the rate of 80 miles per hour, from Stafford to Rugby. The Union Pacific made a run of 100 miles at the rate of 65 miles per hour. The Lake Shore & Michigan Southern, in October, 1895, made the run from Toledo to Buffalo, 288.6 miles, at the rate of 65.6 miles per hour. This is the fastest time on a long, continuous run reported by the Railway Age.

## VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

| Cities Where Stored. | Wheat. Bushels. | Corn. Bushels. | Oats. Bushels. | Rye. Bushels. | Barley Bushels. |
|---|---|---|---|---|---|
| Buffalo | 424,000 | 769,000 | 208,000 | 11,000 | 124,000 |
| Chicago | 793,000 | 7,155,000 | 726,000 | 104,000 | 10,000 |
| Detroit | 73,000 | 74,000 | 3,000 | 3,000 | ..... |
| Duluth and Superior | 1,248,000 | 2,303,000 | 30,000 | 44,000 | 42,000 |
| Milwaukee | 97,000 | ..... | ..... | 2,000 | 8,000 |
| Montreal | 49,000 | 264,000 | 858,000 | 16,000 | 28,000 |
| Oswego | ..... | ..... | ..... | ..... | ..... |
| Toledo | 456,000 | 337,000 | 14,000 | 14,000 | ..... |
| Toronto | 17,000 | ..... | 12,000 | ..... | ..... |
| On Canal | 8,000 | 688,000 | 394,000 | 7,000 | 105,000 |
| Grand Total | 9,093,000 | 17,575,000 | 3,440,000 | 305,000 | 343,000 |
| Corresponding Date, 1897 | 17,814,000 | 15,677,000 | 6,528,000 | 1,769,000 | 825,000 |
| Increase | ..... | ..... | ..... | ..... | ..... |
| Decrease | 289,000 | 1,096,000 | 830,000 | 179,000 | 7,000 |

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

## EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., report the condition of the eastern freight market as follows:

The list of fixtures for grain does not yet show any increase in the demand for tonnage. A re-charter of prompt boat for Cork f. o. could only be effected at 2s. 9d. after hanging fire for some time, during which 2s. 6d. and 2s. 7½d. was in other quarters mentioned as the highest obtainable figure. We shall, therefore have to look for quite a change in the present sluggish demand for our cereals before acceptable figures can be placed before owners. Unfortunately the present mid-summer dullness appears to spread itself over most of our other staple trades as well, so that little compensation can be found in other branches for the almost entire absence of demand for grain bottoms.

Business in sail tonnage in all directions remains exceedingly quiet, and this market offers no features of particular interest to report. Rates, however, do not vary from our last quotations.

THE Juragua Iron Co., of Philadelphia, which is owned by the Pennsylvania Steel Co., and the Bethlehem Iron Works, owns a very large iron ore property near Santiago, from which ore has been shipped to the United States in large quantities for about seven years past. The Spanish-American Iron Co., of New York, which is composed largely of capitalists identified for many years with the Lake Superior iron ore industry, has a large mining property further to the east, and for several years past has been making large shipments of iron ore to the United States from its own shipping pier at the little harbor of Daiquiri. The occupation of Santiago by the American troops will permit the resumption of mining operations at both these mining centers. The present war has closed to American iron manufacturers two of their most important foreign sources of supply of iron ore, the mines in Cuba and those at Bilbao, Spain, but there is a prospect that the Cuban mines will soon resume operations.

THE primacy of the United States in the production of iron and steel, forms the subject of a practical paper from the pen of John Foord, in the August number of the North American Review. In "The Great Lakes and Our Commercial Supremacy," Mr. Foord shows that the system of cheap transportation furnished by the Great Lakes, together with the vast productive possibilities of the lake mines, constitutes the very keystone of the rapidly expanding structure of the industrial greatness of the country.


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ASSETS, - - - - - - - 10,023,220.93

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The profits of the Company revert to the assured, and are divided annually upon the premiums terminated during the year; thereby reducing the cost of insurance. For such dividends, certificates are issued bearing interest until ordered to be redeemed, in accordance with the charter.

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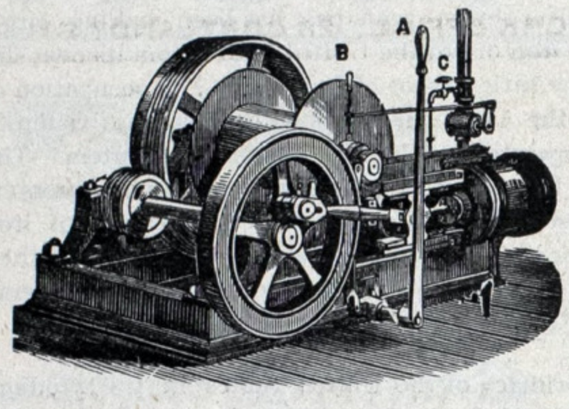


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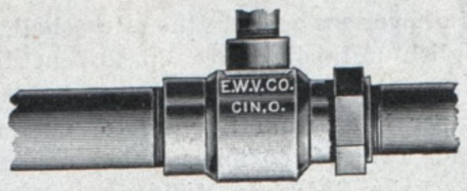


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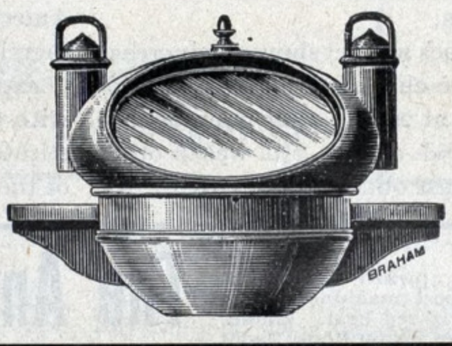


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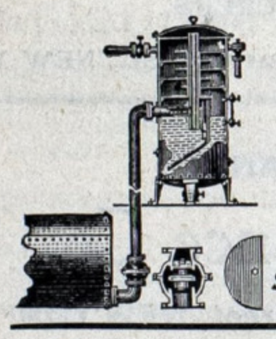

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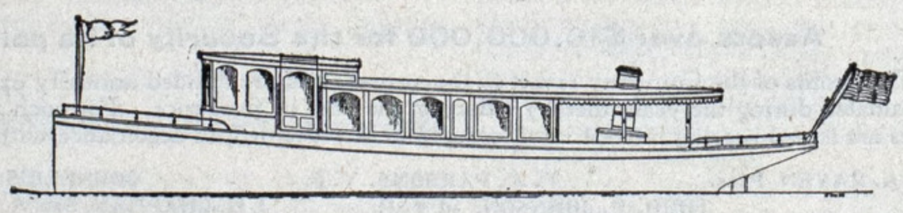

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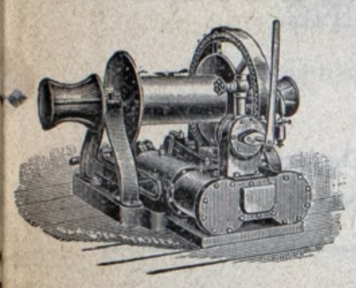

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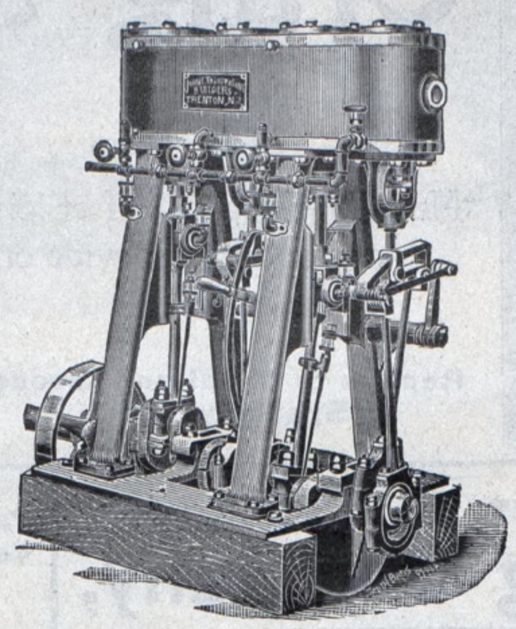

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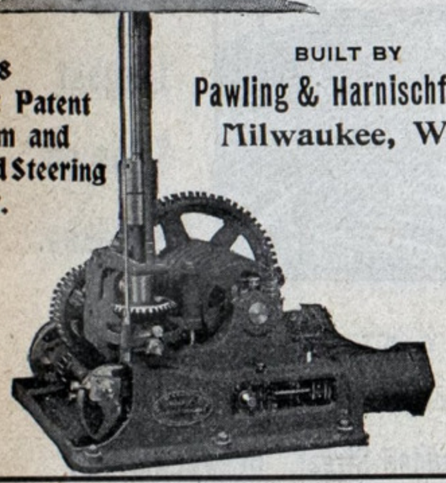

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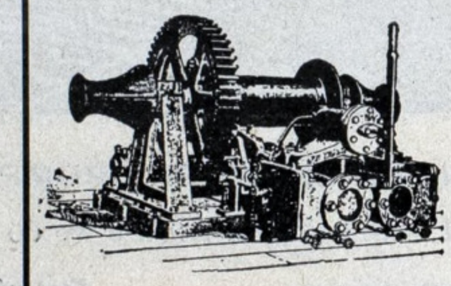

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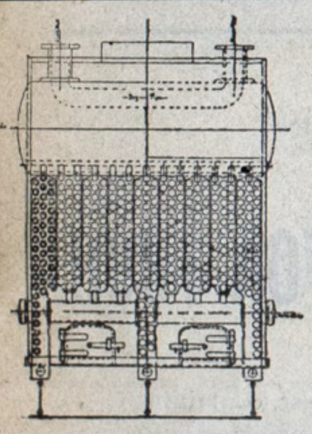

26 HANCOCK AVE., DETROIT, MICH., Feb. 9, 1897.

E. H. BRIDGES, Bay City, Mich.:

Dear Sir.—Replying to yours of the 9th, I have to say that I think the Flajole the best form of Water Tube Boiler made. The one I have seems a perfect steamer, and the question of durability seems the only one yet undecided, and that only time can tell. Yours truly.

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Combines Small Space, Economy and Durability.
Easy of Access for Repairs.

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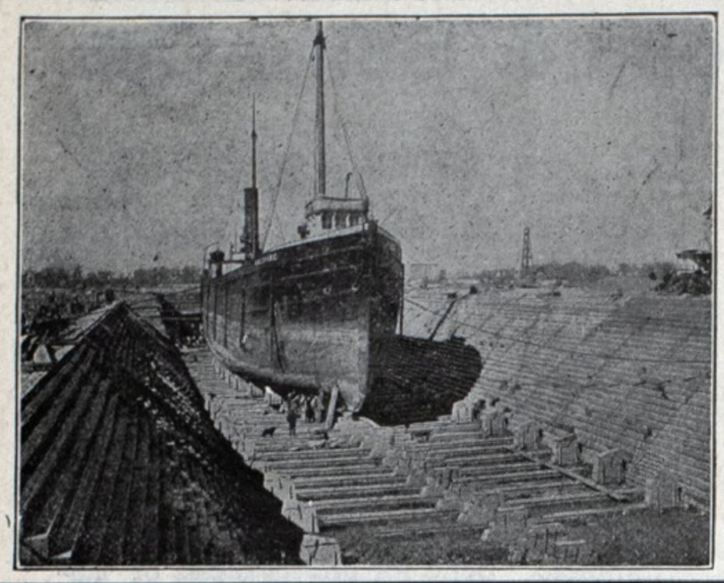

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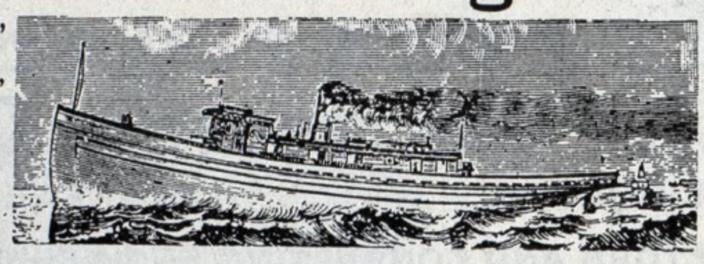

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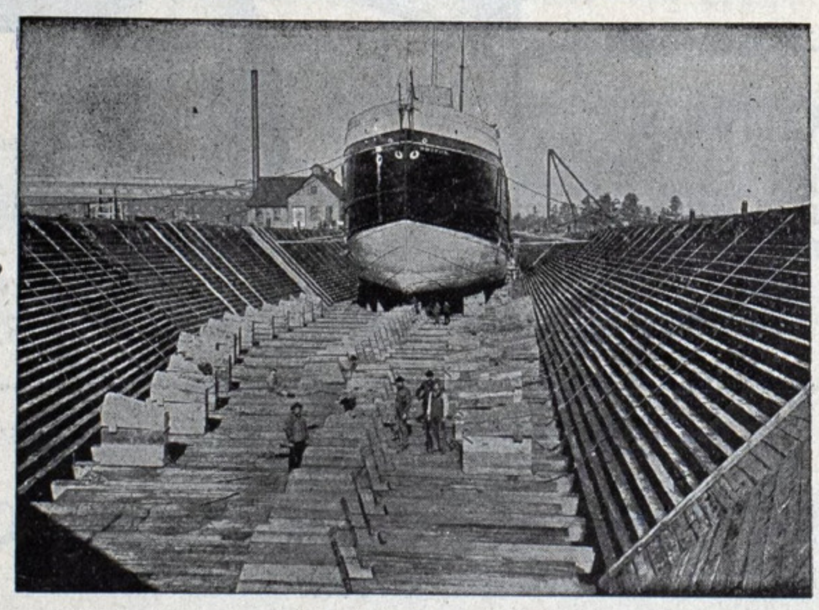

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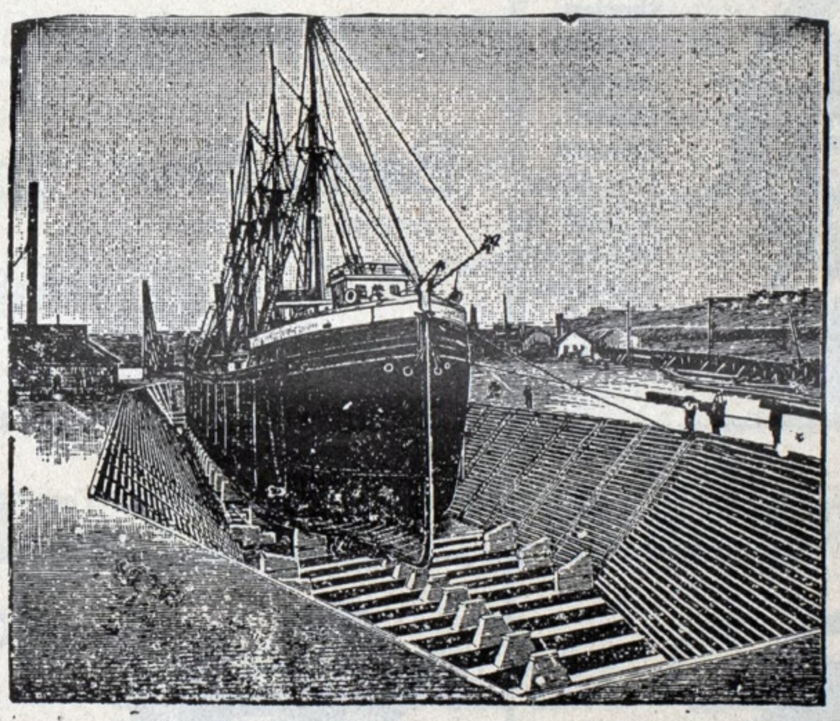

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